III. REMARKS

1. Claims 1-24 remain in the application. Claims 1, 18, 19, and 20 have been amended.

2. Applicants respectfully submit that claims 1, 2, 6, 8-10, and 14-20 are not anticipated by Stevens, W. R. *TCP/IP Illustrated, The Protocols* (Addison-Wesely 2001), hereinafter "Stevens".

Stevens fails to disclose or suggest signaling a protocol identifier determined in accordance with first protocol layers to second protocol layers, as recited in Applicants' claims 1, 18, 19, and 20.

By way of explanation, the cited reference pertains to landline router networks, while the present invention concerns making a connection over radio access networks. The fundamental difference between the two comes from the fact that in a fixed network one uses cables or optical fibres for building the connections, and it is always possible to utilize a thick enough cable or bunch of fibers so that any given estimated need for transmission capacity can be met and exceeded. Fixed router networks typically work on the principles of heavy over-dimensioning and strong self-adaptation, which is possible because the actual physical transmission path does not constitute a bottleneck of capacity.

On the other hand, in a radio access network the amount of available transmission capacity over the radio interface is always a limiting factor. There are only certain limited amounts of time and bandwidth available. It is very important that the packets that will be transmitted over the radio interface fulfill

their Quality of Service requirements (i.e. the bearer parameters) at maximum efficiency, without wasting any portion of the scarce radio resources. For this purpose, the radio access networks involve factors like radio bearer configuration, radio resources administration, and scheduling algorithms, the correct parametrization and optimisation of which have a key role in enabling as much information as possible to be transmitted over the limited radio resources. None of these types of factors appear in fixed landline router networks. The present invention is a part of such optimization, because stating the use of certain protocol layers reveals important details about how certain packets should be handled in the process.

Another point to be considered concerns the predictability of the protocol environment in a fixed landline router network vs. the unpredictability of the radio access networks. A terminal that will connect to a fixed network has a network adapter (typically a network connection board) that is fixedly configured to utilize certain protocols in communicating with the network. This is the case in the cited reference publications. There is no need for separately signaling anything about protocols, because the terminal will stay fixed at its location, and its operating environment does not change. On the other hand, in the present invention, where radio access networks are involved, the terminal is moving and can connect to one radio access network at the moment but may connect with another radio access network in the near future, which may involve a different use of the protocols as a default. It is therefore important that the terminal is capable of taking part in signaling about the protocols as claimed in the present invention. This enables the terminal to automatically adapt itself into any new operating environments, which it will be required to do every now and then.

It is important to note a feature of the nature of protocol layers in a protocol stack. Information handled on one protocol layer is generally not available to other layers, because between the layers, operations like bit interleaving and the chopping up or segmentation of packets may take place.

Therefore, even if a cited reference, for example, Stevens, mentions that an IP protocol layer in one device may insert a certain identifier into a TYPE field of a packet header, that information (the value of the identifier) is not available to any entity other than exactly the same protocol layer in a peer device, which is capable of reading the packet header. Therefore the simple existence of such an identifier does not anticipate the invention as claimed, because in the independent claims we require information about a certain protocol layer to be transferred to another protocol layer as well.

Even if the IP layer of a transmitting device knows what value to use for the identifier, this does not suggest that it must somehow have obtained information about what protocol layer is used above it in the same device.

While the concept of protocol primitives is known because they constitute the mechanism by which the IP layer knows the correct value for the identifier to be put into the TYPE field, protocol primitives do not signal as recited in the presently pending claims. The purpose of the present invention is to enable the signaling of a certain protocol in use, even to a different protocol layer in a different device. The devices taking part in such signaling are not necessarily the ultimate starting and ending points of a connection, but the radio access network is involved in such signalling. Network nodes that may utilize this type of inventive signaling include, using the terminology of

present-day networks, GGSN (Gateway GPRS Supporting Node), RNC (Radio Network Controller), call control servers, SIP (Session Initiation Protocol) servers, and edge routers.

At least for these reasons, Applicants respectfully submit that Stevens fails to anticipate claims 1, 18, 19, and 20. Claims 2, 6, 8-10, and 14-17 depend from claim 1 and therfore are also not anticipated by Stevens.

3. Applicants respectfully submit that claims 1, 7, 11 and 12 are not anticipated by Amri et al. (US 5,535,199, hereinafter "Amri").

Like Stevens, there is no disclosure in Amri related to signaling a protocol identifier determined in accordance with first protocol layers to second protocol layers.

Amri adheres closely to the known definitions of the TCP/IP environment. Column 7, line 27, to column 8, line 5 of Amri discloses a known way of conveying information about known protocols in use: setting a certain value into a PID (Protocol IDentifier) field that is defined to occupy the first few bytes of the User Data field in a Call Request packet.

This is a classical example where signaling information is packed into the same package with the actual payload information to be transmitted, which in the case of a Call Request packet is the indication of a party's desire to set up a call.

Amri also describes the process of how a packet of one protocol level may be converted and "chopped into pieces" on the next immediately lower protocol level, at column 7, lines 13-15.

However, there is no disclosure in Amri related to signaling a protocol identifier between protocol layers. At least for these reasons, Applicants respectfully submit that Amri does not anticipate claims 1, 7, 11 and 12.

4. Claims 20-24 are not anticipated by Gleeson et al. (US 5,446,736, hereinafter "Gleeson").

Gleeson also has no disclosure related to signaling a protocol identifier determined in accordance with first protocol layers to second protocol layers, as recited in Applicants' claim 20.

As Gleeson's Title indicates ("…Using a Standard Protocol"), Gleeson is not directed to signaling between protocol layers, which is a very non-standard technique, at least considering the time the present application was filed.

The Office Action refers to using a Compression ID in a certain field of a packet, in column 14, lines 34-38, which is an almost one to one equivalent to using a PID as suggested by Amri. Therefore, for the same reasons argued above with respect to claims 1, 7, 11 and 12, Applicants submit that Gleeson fails to anticipate claims 20-24.

5. Claims 3-5 are patentable over Stevens because of their dependency from claim 1.

For all of the foregoing reasons, it is respectfully submitted that all of the claims now present in the application are clearly novel and patentable over the prior art of record, and are in proper form for allowance. Accordingly, favorable reconsideration and allowance is respectfully requested. Should any unresolved issues remain, the Examiner is invited to call Applicants' attorney at the telephone number indicated below.

A check in the amount of $110.00 is enclosed for a 1 month extension of time.

The Commissioner is hereby authorized to charge payment for any fees associated with this communication or credit any over payment to Deposit Account No. 16-1350.

Respectfully submitted,

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